

FIG. 1

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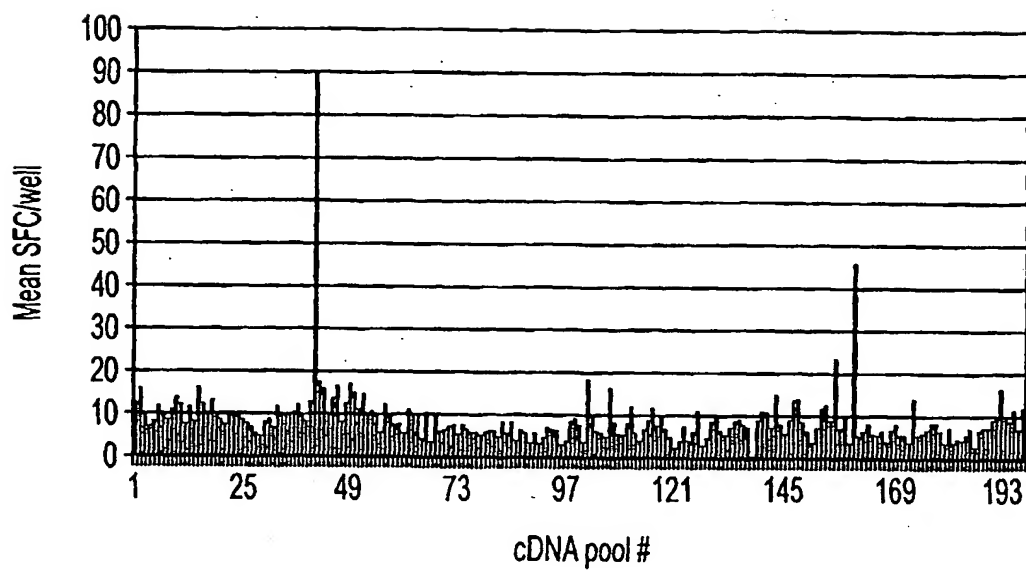


FIG. 2

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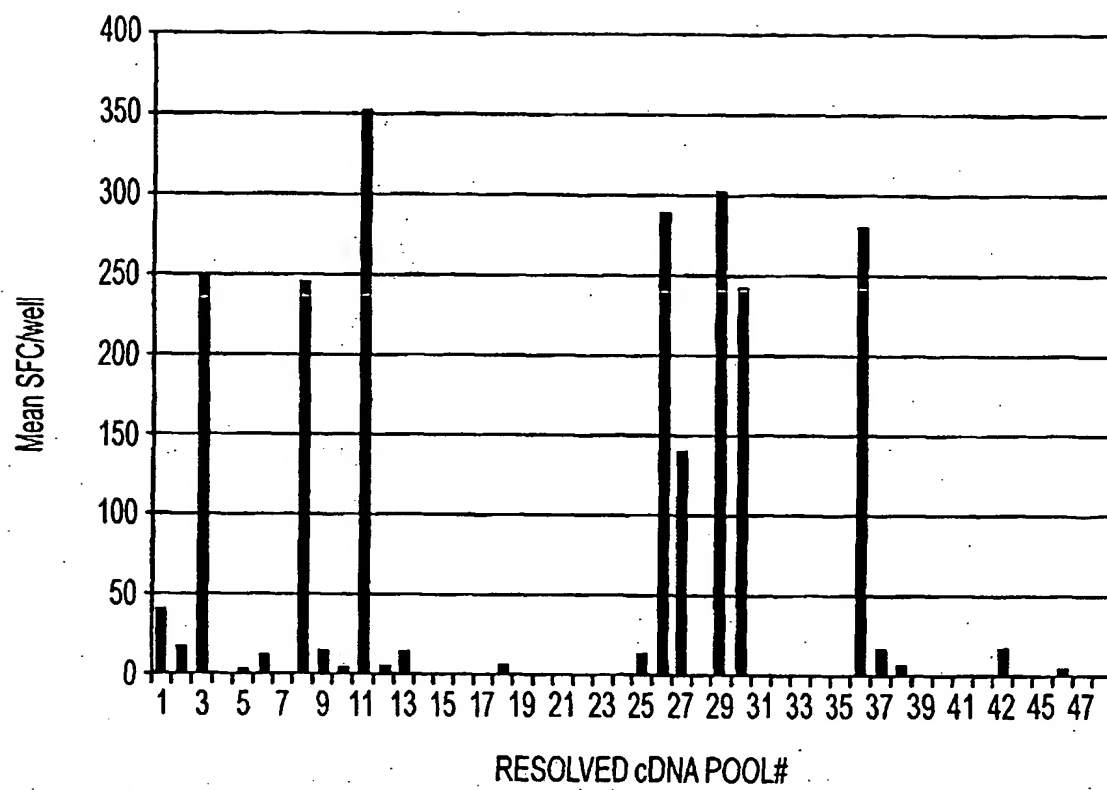


FIG. 3

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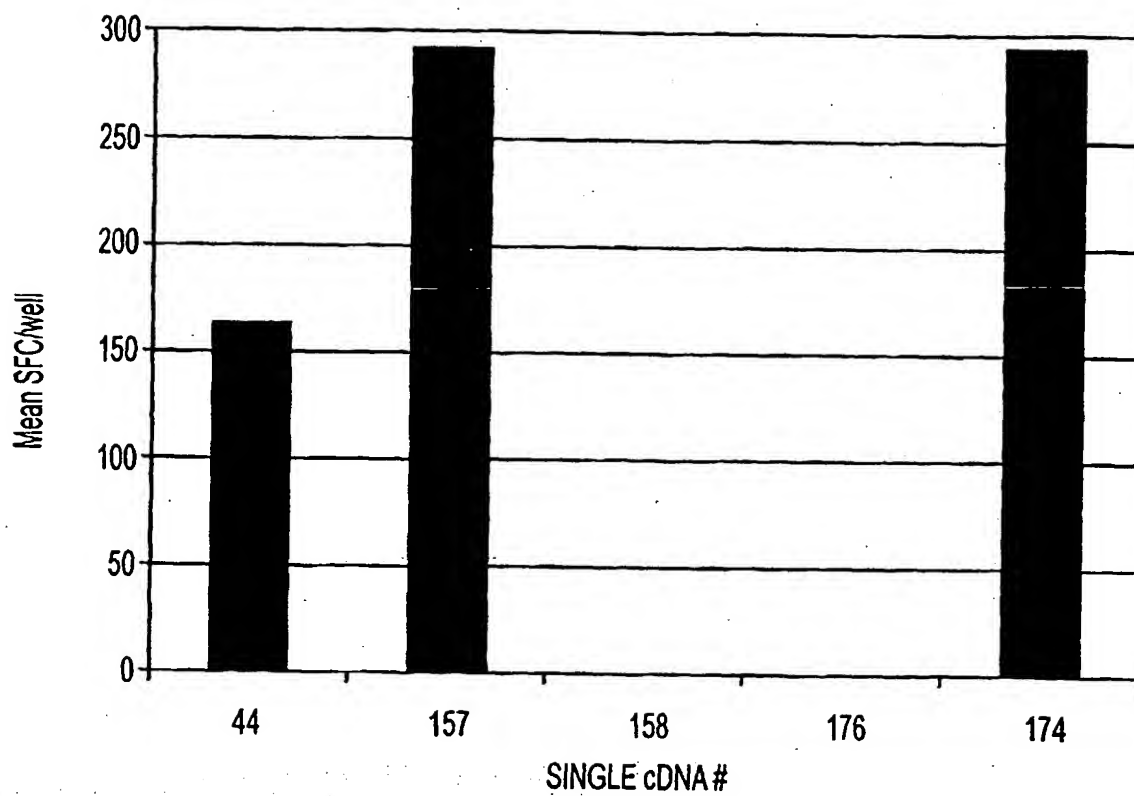


FIG. 4

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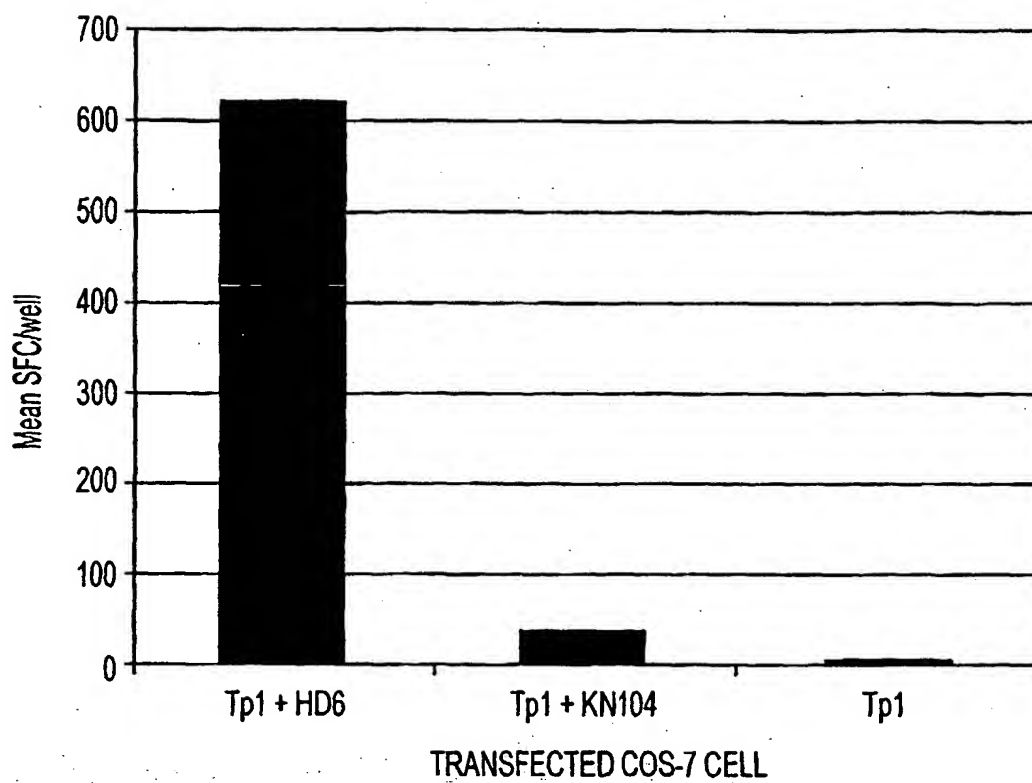


FIG. 5

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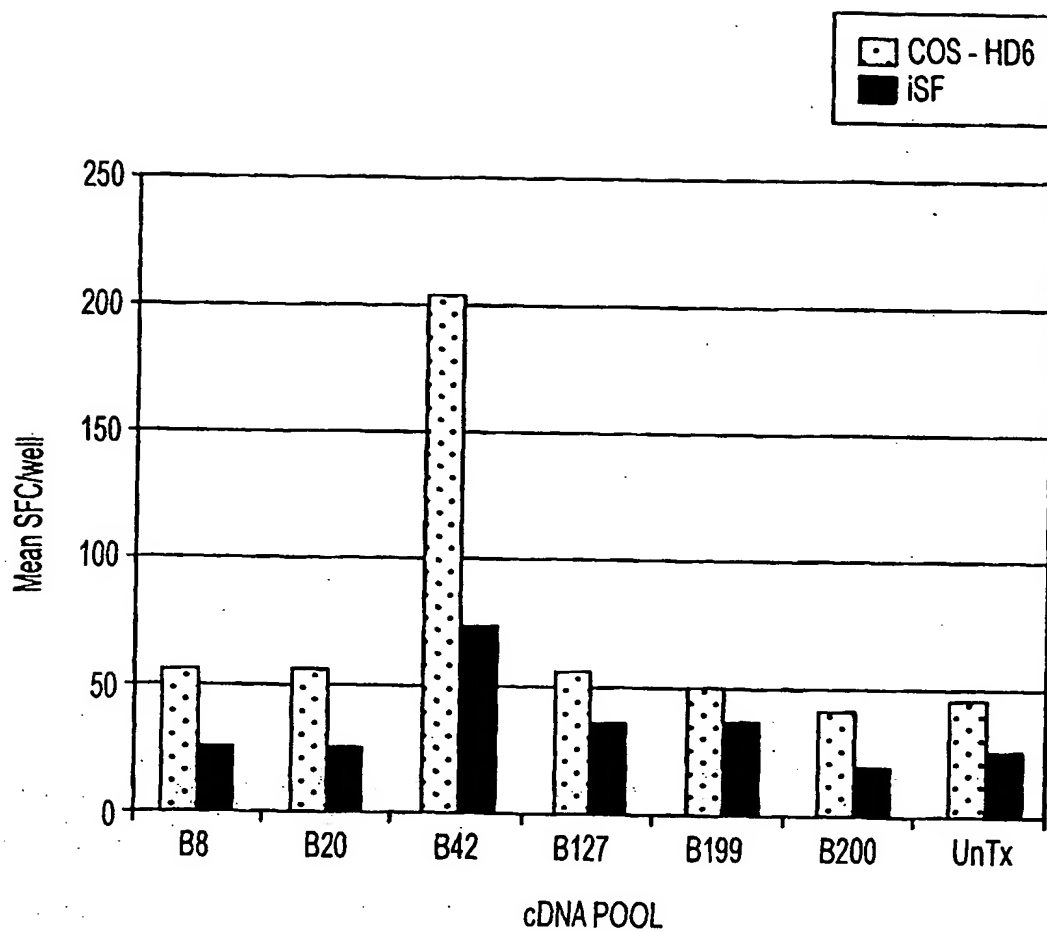


FIG. 6

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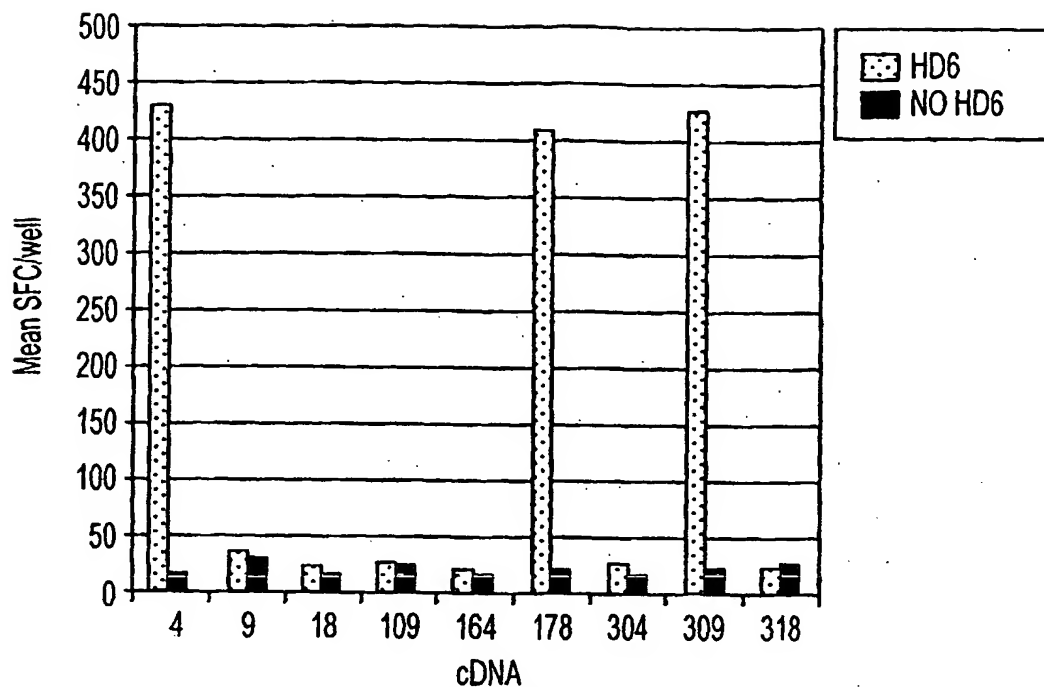


FIG. 7A

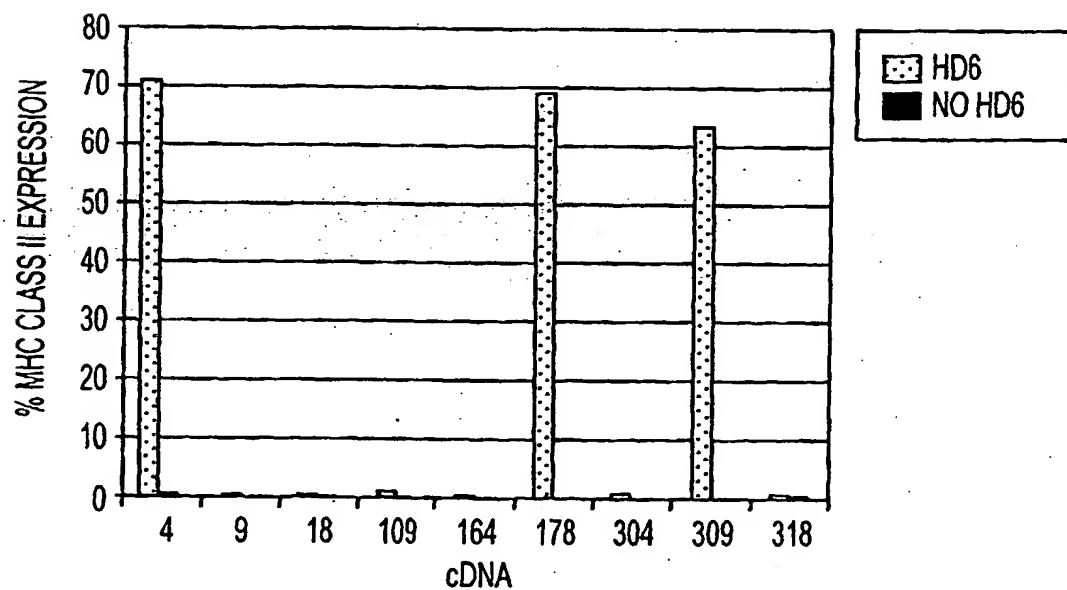


FIG. 7B

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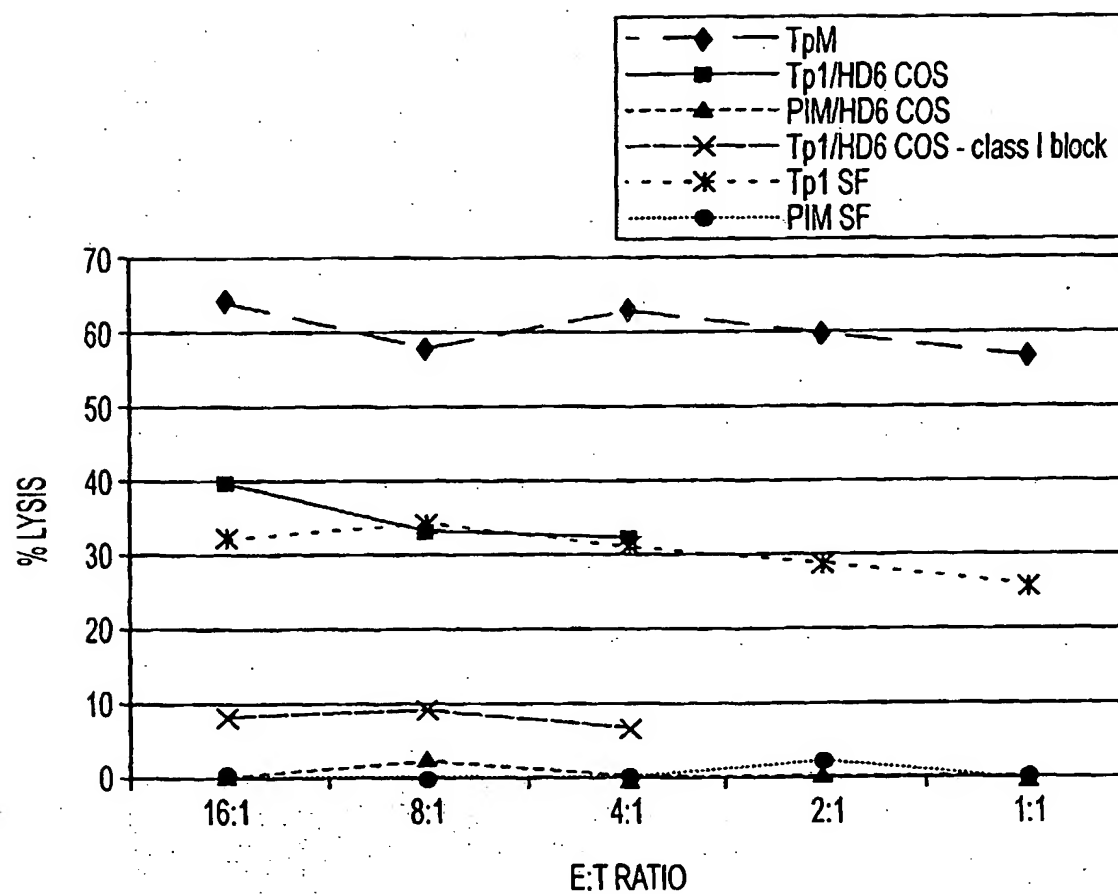


FIG. 8



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	10	20	30	40	50	60	70
80							
Tp1 ORF	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del1	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del2	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del3	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del4	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del5	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del6	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEE...	PSALEDELKK	REESRKRME	EMQKEILEKK
	90	100	110	120	130	140	150
Tp1 ORF	LEKREKEVD	EFAKHLKKPE	ERLPKIILTL	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del1	LEKREKEVD	EFAKHLKKPE	ERLPKIILTL	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del2	LEKREKEVD	EFAKHLKKPE	ERLPKIILTL	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del3	LEKREKEVD	EFAKHLKKPE	ERLPKII...	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del4	LEKREKEVD	EFAKHLKKPE	ERLPKII...	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del5	LEKREKEVD	EFAKHLKKPE	ERLPKII...	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del6	LEKREKEVD	EFAKHLKKPE	ERLPKII...	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
	170	180	190	200	210	220	230
Tp1 ORF	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del1	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del2	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del3	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del4	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del5	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del6	FGGKTYTIK	IEATMATSIA	FAADPGFCYP	LLIPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
	250	260	270	280	290	300	310
Tp1 ORF	APPGVKPEAP	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del1	APPGVKPEAP	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del2	A.....	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del3	A.....	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del4	A.....	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del5	A.....	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del6	A.....	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
	330	340	350	360	370	380	390
Tp1 ORF	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del1	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del2	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del3	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del4	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del5	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del6	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
	410	420	430	440	450	460	470
Tp1 ORF	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del1	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del2	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del3	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del4	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del5	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del6	DSIFNDFVT	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
	490	500	510	520	530	540	550
Tp1 ORF	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del1	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del2	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del3	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del4	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del5	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del6	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....

FIG. 9

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	200	210	220	230	240
Tp1.1	mPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF	NRLPKGVEIP
Tp1.2					
Tp1.3					
Tp1.4	mPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF	NRLPKGVEIP
Tp1.5					
Tp1.6	mPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF	NRLPKGVEIP

	250	260	270	280	290
Tp1.1	APPGVKPEAP	TPTPTTIT			
Tp1.2	mP	TPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTVQN
Tp1.3					
Tp1.4	APPGVKPEAP	TPTTITPSVP	PTIPTPITPS	APPTTPPTGL	NFNLTVQNKF
Tp1.5	mP	TPTTITPSVP	PTIPTPITPS	APPTTPPTGL	NFNLTVQNKF
Tp1.6	APPGVKPEAP	TPTTITPSVP	PTIPTPITPS	APPTTPPTGL	NFNLTVQNKF

	300	310	320	330	340
Tp1.1					
Tp1.2	KFMIGSQEVK	LNITHEYEGV	YEAHKYFI		
Tp1.3		mGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV
Tp1.4	KFMIGSQEVK	LNITHEYEGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV
Tp1.5	KFMIGSQEVK	LNITHEYEGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV
Tp1.6	KFMIGSQEVK	LNITHEYEGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV

	350	360	369
Tp1.1			
Tp1.2			
Tp1.3	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIF
Tp1.4			
Tp1.5	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIF
Tp1.6	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIF

FIG. 10

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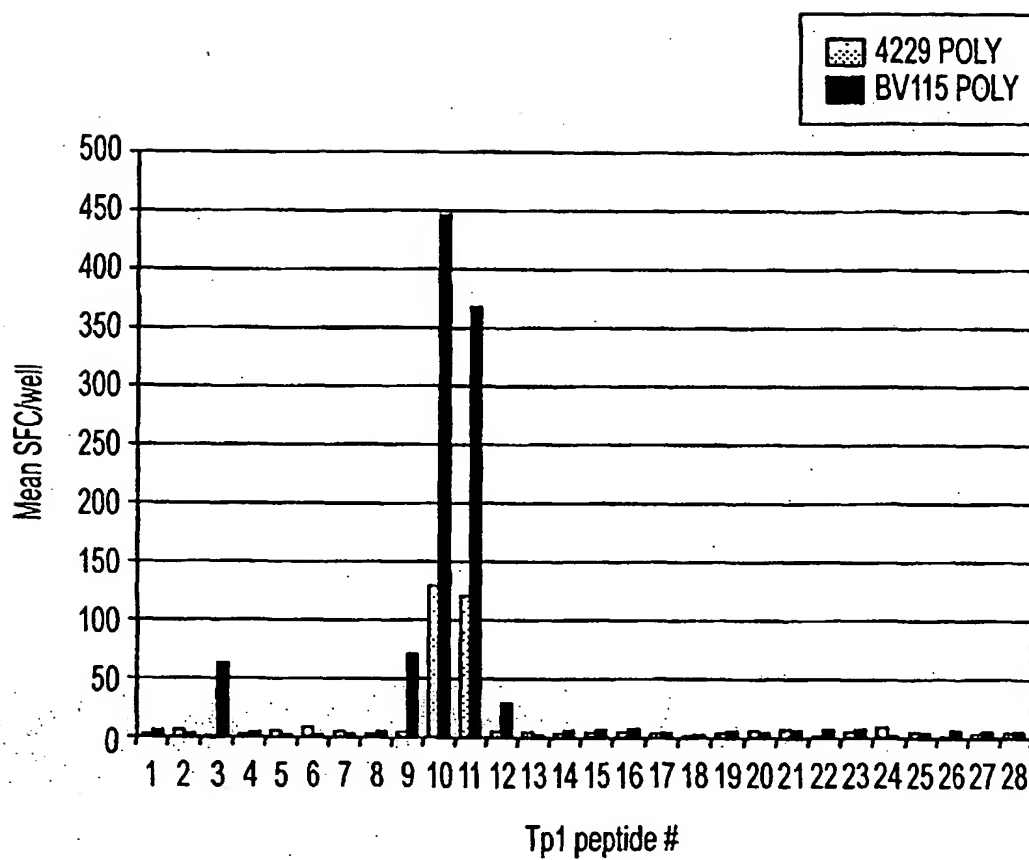


FIG. 11

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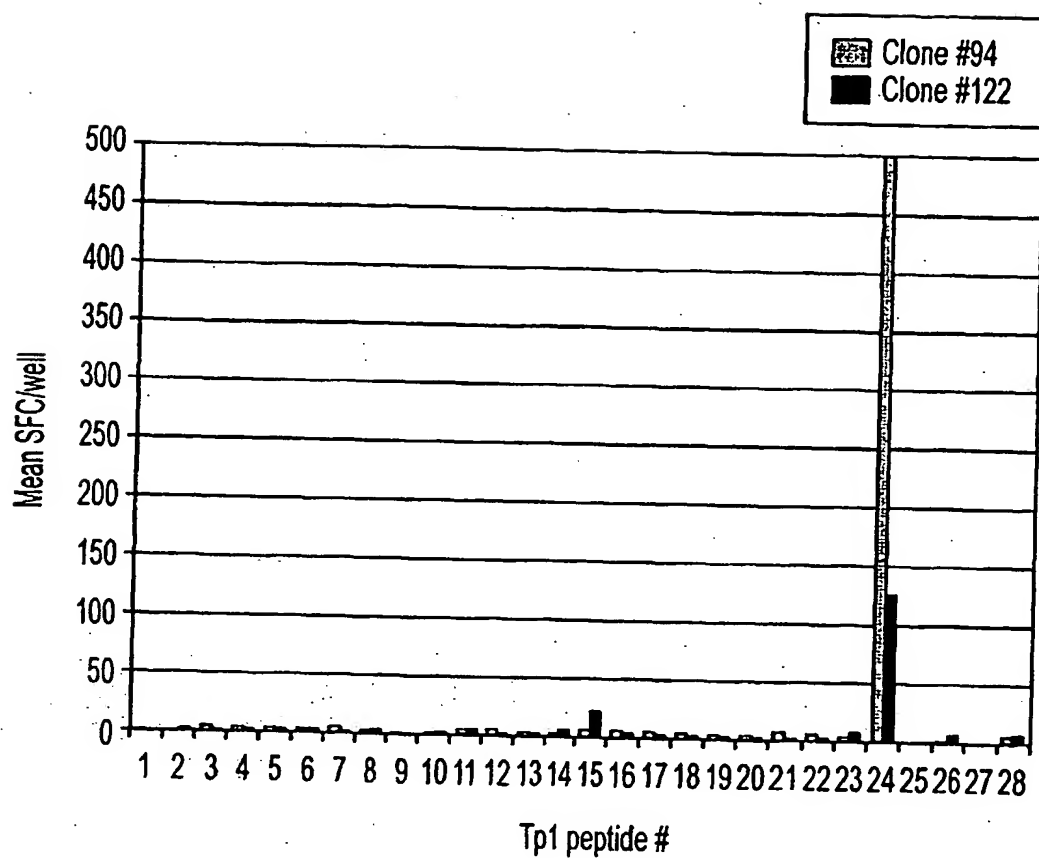


FIG. 12

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	10	20	30	40	50	60
Tp1Muguga	MRVKKVLlyTLpVVGILLAGSLIIFNFVRKRPEKEEELKPPSALEDELKKREEESRKRME					
Tp1Marikebuni	MRVKKVLlyTLpVVGILLAGSLIIFNFVRKRPEKEEELKPPSALEDELKKREEESRKRME					
	10	20	30	40	50	60
Tp1Muguga	EMQKEILEKKLREGKKALEEELKREKEVDEFAKHLKKPEERLPKIILTLDSGFPTVDPI					
Tp1Marikebuni	EMQKEILEKKLREGKKALEEELKCEKEMVDEFEKHLKKPEERLPKIILTLDSGFPTVDPI					
	70	80	90	100	110	120
Tp1Muguga	TYTSGVYMAVSKTTFTSDSDLVDFHTLLGIKFLVTGVQFGGKTYTIKPIEATMATSIA					
Tp1Marikebuni	TYTSGVYMAVSKTTFTSDSDLVDFHTLLGIKFLVAGVQFGGKTYTIKPIEATMATSIA					
	130	140	150	160	170	180
Tp1Muguga	FAADPGFCYFLLIPGPDSKPIFFKNDGDKFLRCVGYPKVKEEMLEMATKFNRLPKGVEIP					
Tp1Marikebuni	FAADPGFCYFLLIPGPDSKPIFFKNDGDKFLRCVGYPKVKEEIIEMATKFNRLPKGVEIP					
	190	200	210	220	230	240
Tp1Muguga	APPGVKPEAPTPTPTTITPSVPPTIPTPTPSAPPTTPPTGLNFNLTVQNKFMIGSQEVK					
Tp1Marikebuni	APPGVKPEAPTPTPTTITPSVPPTIPTPTPSAPPTTPPTGLNFNLTVQNKFMVGSQEVK					
	250	260	270	280	290	300
Tp1Muguga	LNITHEYEGVYEAHKYFIERGSFTPTSF SIGDLPQTGLPVNQTVDTIVVYFHRVTMGEPV					
Tp1Marikebuni	LNITHEYDGVYEAHKYFIEKGRFTPTSF SIGADPQTGLPVNQTVDTIVVYFHRVTMGEPV					
	310	320	330	340	350	360
Tp1Muguga	GIPLIVLIFYKNQSRKYLNGNGNWEESKALLFREELDYLDIFNDFVTVNLSSRRSDYYR					
Tp1Marikebuni	GIPLIVLVIFYKNQSTKYLNGNGNWEESKALLFREELDFLD SMFNGYVTVNLSSRRSDYYR					
	370	380	390	400	410	420
Tp1Muguga	NGTGTSEIEQTLD MNVYVEPDTPCAGWTTYIHKLEEGGEGGIEKPFQIRQLWFSKQKFDI					
Tp1Marikebuni	NGTGTSEIEKTLD MNVYVEPDTPCLGWTTYIHKLEEGGEGGIEKPFQIRQLWFSKQKFDI					
	430	440	450	460	470	480
Tp1Muguga	FPMGKVSIVNVYGKND EPLSYAPSIFSVIREDGIQIFYVRAYSQYLLDSSVNPQNLPOKL					
Tp1Marikebuni	FPMGKVSIVNVYGKND EPLSYAPSIFSVIREDGIQIFYVRAYSQYLLDSSVNPQNLPOKL					
	490	500	510	520	530	540
Tp1Muguga	NTL					
Tp1Marikebuni	TAE					

FIG. 13

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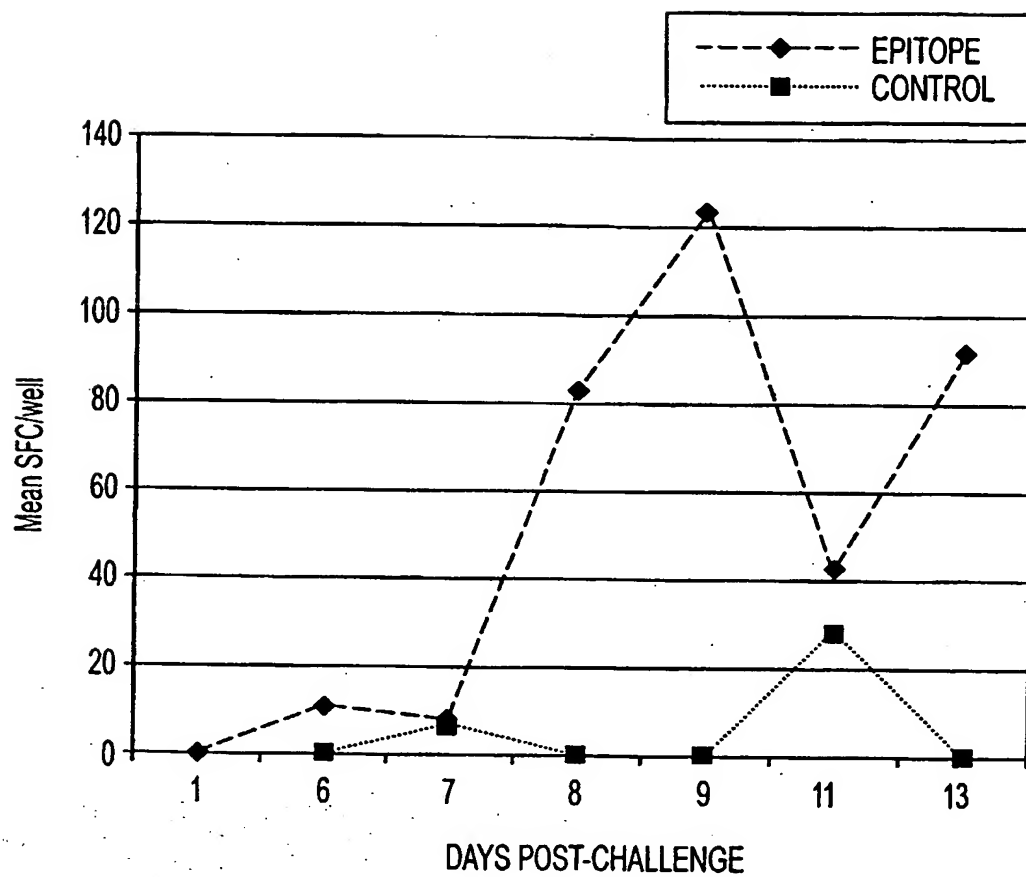


FIG. 14

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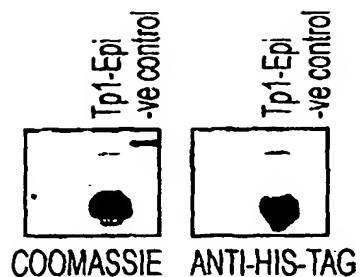


FIG. 15A

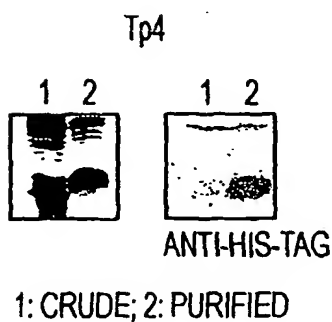


FIG. 15B

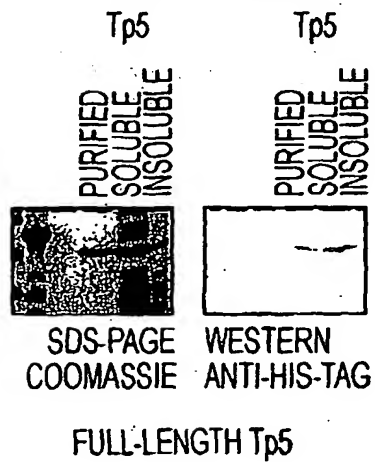


FIG. 15C

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FIG. 16Aa

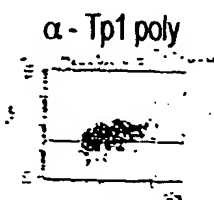


FIG. 16Ab

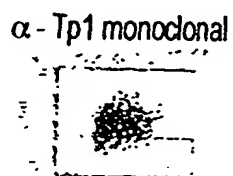


FIG. 16Ac

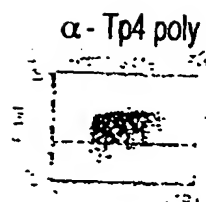


FIG. 16Ad

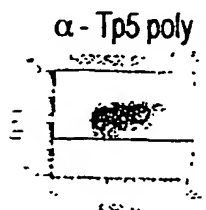


FIG. 16Ae

ANTIBODY	% OF T. PARVA INFECTED CELLS STAINED
Anti-Tp1 polyclonal Ab	78
Anti-Tp1 monoclonal Ab	85.96
Anti-Tp4 polyclonal Ab	92.52
Anti-Tp5 polyclonal Ab	96.04
Control	0.32

FIG. 16B



Tp1	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
Kakuzi521	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
NyairoIL02	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
NyairoIL17	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
Kakuzi521	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
Buffalo7344c1	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
KillifKL2	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
D409TpMariakani	MATSI	AAADPGICV	FLIPAP	--	KPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP
KillifBR305	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
KillifKL1	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
Zambia2	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
Uganda	MATSI	AAADPGFCY	LLIPG	DSKPI	FFKND	GDKFL	RCV	GPY	PKV	KEE	LEM	ATK	FNRL	PK	GVEI	PAP	PGVK
Tp1	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
Kakuzi521	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
NyairoIL02	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
NyairoIL17	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
Kakuzi521	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
Buffalo7344c1	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
KillifKL2	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
D409TpMariakani	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
KillifBR305	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
KillifKL1	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
Zambia2	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	
Uganda	PEAPT	PTPTITPS	VPPPTIPT	ITPSA	PTPTPT	TGL	NFNL	TVQ	NKFM	IGSQ	EVK	LNIT	THEY	EGV	YEAH	KYFI	

FIG. 17

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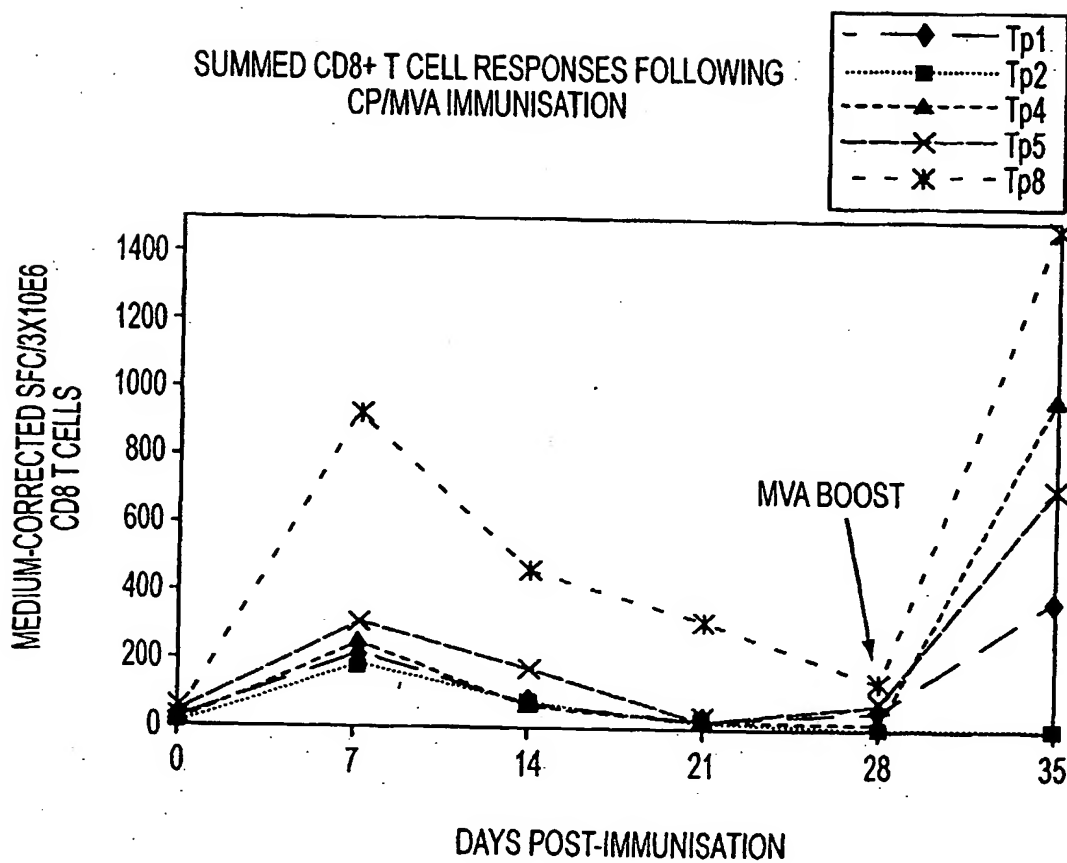


FIG. 18

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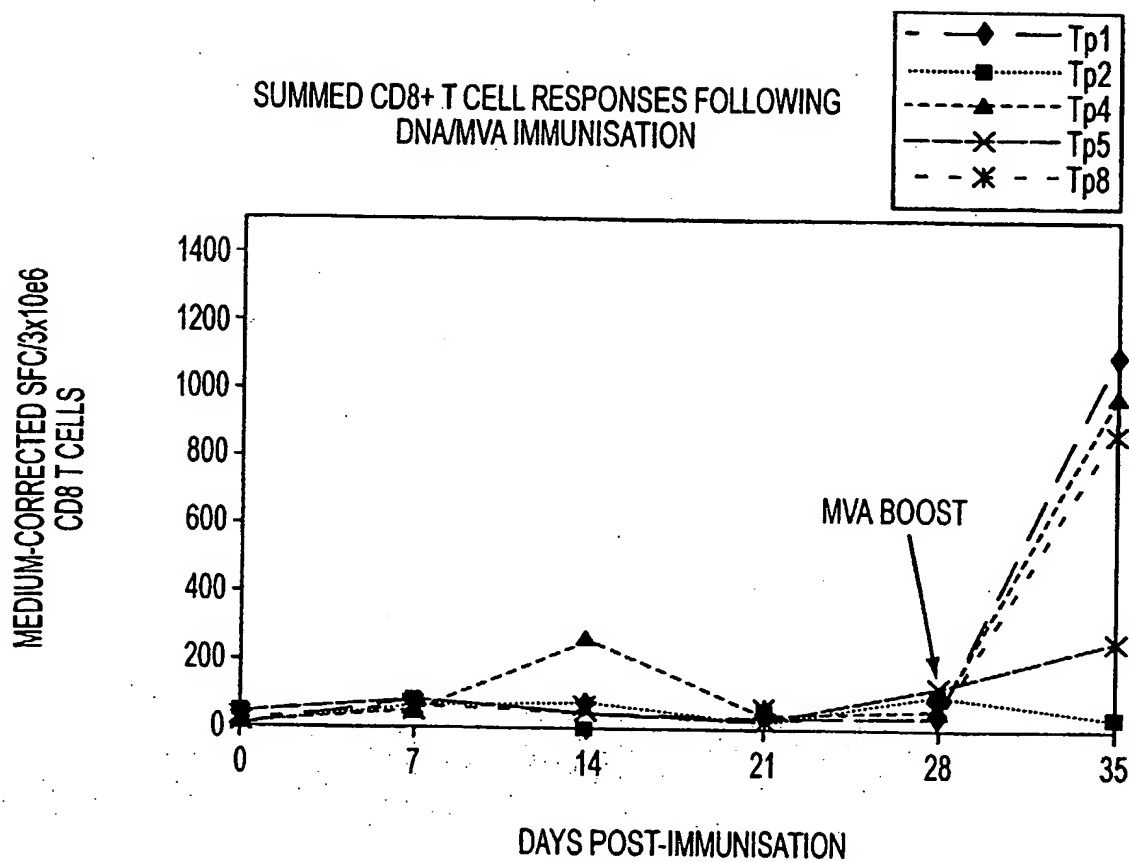


FIG. 19

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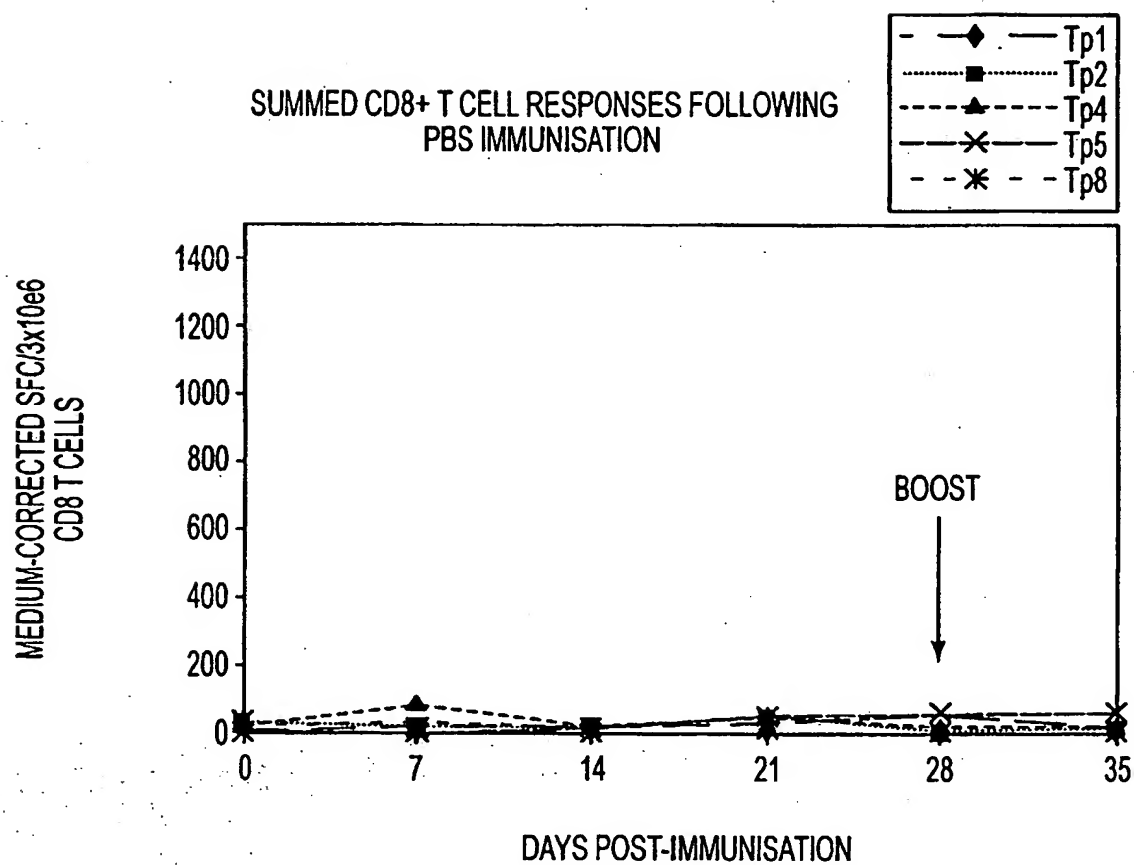


FIG. 20